

PERMIT TO OPERATE

Number: 113 (formerly D-1390-A-1)

FACILITY OWNER-OPERATOR:

Duke Energy Morro Bay LLC
P.O. Box 1737
Morro Bay, California 93443-1737

FACILITY LOCATION:

Morro Bay Power Plant
1290 Embarcadero Road
Morro Bay, California

FOR THE EQUIPMENT LISTED HEREIN AND SUBJECT TO THE LISTED CONDITIONS

Reissued with Non-federal Minor
Changes on February 24, 1999

March 31, 2003

ISSUANCE DATE

ANNIVERSARY

ROBERT W. CARR

Air Pollution Control Officer

Application Number: 2391

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

Table of Contents

| | |
|--|----|
| Conventions and Abbreviations | iv |
| I. Specific Emission and Operational Limits..... | 1 |
| II. Facility Description | |
| A. General | 4 |
| B. Specific Equipment | 4 |
| C. Insignificant Equipment..... | 8 |
| III. Conditions | |
| A. Standard | 9 |
| 1. Generally Applicable Requirements | |
| 2. Compliance with Permit Conditions | |
| 3. Emergency Provisions | |
| 4. Compliance Plan | |
| 5. Right of Entry | |
| 6. Severability | |
| 7. Circumvention | |
| 8. Permit Life | |
| 9. Payment of fees | |
| B. Specific Recordkeeping, Inspection, and Reporting | |
| 1. Recordkeeping | 15 |
| a. For all four main boiler units | |
| b. For certified emission monitoring systems | |
| c. For SO ₂ emission fuel flow meters | |
| d. For each main boiler unit | |
| e. Thinners for metal surface coatings | |
| f. Thinners for architectural coatings | |
| 2. Files to be Maintained | 17 |
| 3. Inspections, calibrations, and sampling | 18 |
| a. Performance criteria | |
| b. Daily | |
| c. Quarterly | |
| d. Annually | |
| 4. Unusual operating conditions | 20 |
| a. Main boiler fuel oil firing | |
| b. CEM Recertification | |
| c. Reports of violations | |
| d. Monitoring equipment breakdown or shutdown | |
| e. Deviations from requirements | |
| f. Asbestos stripping or removal | |

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

| | |
|--|----|
| 5. Reporting..... | 22 |
| a. Quarterly | |
| b. Semi-annually | |
| c. Annually | |
| d. Annual predicted asbestos renovations | |
| C. Emissions Monitoring Program | 24 |
| 1. Continuous Emissions Monitoring | |
| 2. Changes to Monitoring Plans | |
| 3. Fuel Flow Instruments | |
| D. Compliance Testing | 26 |
| 1. Annual Compliance Testing and Equipment Calibration | |
| 2. Test Methods | |
| E. Specific to Each Process | 27 |
| F. Future Effective | 29 |
| 1. District Rule 429 | |
| 2. Acid Rain Program | |
| G. Permit Shield 30 | |
| 1. NO _x and CO ₂ monitoring | |
| IV. Compliance Determination Fees | 30 |
| V. Acid Rain Provisions | 30 |

Conventions and Abbreviations

A. The following referencing conventions are used in this permit.

1. The reference for each requirement will be noted in [square brackets]. References which are noted as being "District-only" are not federally-enforceable requirements. **All conditions with references in [square brackets] that do not contain the phrase "District-only" must be considered federally-enforceable requirements.**
2. Wherever possible, each requirement, condition, or piece of equipment has been identified with a unique permit section/condition number. e.g., the 150 ppmv NOx limit for boilers 1 & 2 is condition I.A.1 and the 56 ppmv NOx limit for boilers 3 & 4 is I.A.3.
3. Requirements based on current District rules will be noted by the phrase "Rule" followed by the rule number. Requirements based on District rules approved into the State Implementation Plan (SIP) will be noted by the phrase "SIP Rule" followed by the rule number as it appears in the SIP.
4. Concerning citations for the basis of conditions. If the SIP version of a rule is the same as the current version of a rule, only the SIP version will be cited because including both would be considered redundant. If the SIP version of a rule is different than the current version, both will be included.
5. If there is no over-riding need to have the current version of a permit condition be considered federally-enforceable, it will be listed as "District-only". An example of an over-riding need where the current rule would be considered federally-enforceable might be when that rule is needed to support a federally-enforceable limit.
6. Notations at the beginning or end of a multi-part requirement shall apply to the entire requirement unless specific parts are otherwise referenced.
7. Federal regulation subpart references will typically be indicated by their subpart designation only. References to regulation appendices will be as follows: 40CFR60.App F.4.1 will be used for section 4.1 of Appendix F to 40CFR60. The title of all subparts included here are as follows:

40CFR60, Standards of Performance for New Stationary Sources (NSPS)
40CFR60 Appendix F, Quality Assurance Procedures
40CFR61, National Emission Standards for Hazardous Air Pollutants (NESHAPS)
40CFR61 Subpart M, National Emission Standards for Asbestos
40CFR72, Permits Regulation (Acid Rain Program)
40CFR73, Sulfur Dioxide Allowance System
40CFR75, Continuous Emission Monitoring
40CFR75 Subpart D, Missing Data Substitution Procedures
40CFR75 Appendix B, Quality Assurance and Quality Control Procedures
40CFR75 Appendix C, Missing Data Estimating Procedures
40CFR75 Appendix D, Optional SO₂ Emissions Data Protocol
40CFR75 Appendix F, Conversion Procedures
40CFR75 Appendix G, Determination of CO₂ Emissions

8. District Rule numbers only, will be used for the most part in this permit. The title of all rules referenced are as follows:

SIP Rule 106, Standard Conditions
SIP Regulation IV, Rule 111, Nuisance (abbreviated SIP Rule IV.111)

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

SIP Regulation I, Rule 113, Continuous Emissions Monitoring
(abbreviated SIP Rule I.113)
SIP Regulation IV, Rule 113, Particulate Matter (abbreviated SIP Rule IV.113)
SIP Rule 114, Gaseous Contaminants Prohibitions
SIP Rule 201.E, Posting of Permit to Operate
Rule 204, Requirements (a.k.a. New Source Review)
Rule 206, Conditional Approval
Rule 210, Periodic Inspection, Testing and Renewal of Permits to Operate
Rule 216, Federal Part 70 Permits
Rule 217, Federal Part 72 Permits
Rule 302, Schedule of Fees
SIP Rule 401, Visible Emissions
Rule 402, Nuisance
Rule 403, Particulate Matter Emission Standards
SIP Rule 404, Sulfur Compounds Emission Standards, Limitations and Prohibitions
SIP Rule 405, Nitrogen Oxides Emission Standards, Limitations and Prohibitions
SIP Rule 406, Carbon Monoxide Emission Standards and Limitations
SIP Rule 407, Organic Material Emission Standards, Limitations and Prohibitions
Rule 407, Organic Material Emission Standards
Rule 411, Surface Coating of Metal Parts and Products.....
Rule 425, Storage of Volatile Organic Compounds
Rule 429, Oxides of Nitrogen and Carbon Monoxide from Electric Power Generation
Boilers
Rule 430, Control of Oxides of Nitrogen from Industrial, Institutional, Commercial
Boilers, Steam Generators, and Process Heaters

B. Other conventions.

1. Unless otherwise noted, a "day" shall be considered a 24 hour period from midnight to midnight (i.e., calendar day).
2. The process unit identifications are a holdover from the original permit number designations and are not sequential. This was done to provide continuity between the old and new permit systems. e.g., Process A (main boilers) is followed by Process C (abrasive blasting) is followed by Process D (off-site steam generators). Note that Permit B used to be an oil water separator system and has long since been cancelled.
3. The term "boiler(s)" will be used for the electrical power producing units described in section II.B.1 and the term "off-site boiler(s)" or "off-site steam generator(s)" will be used for the steam heating units described in section II.B.3.
4. Where there is no pertinent information for any given cell in any given table, an entry of "n/a" is used to indicate "not applicable".

C. Abbreviations used in this permit are as follows:

| | |
|-----------------|---|
| 40CFR | Chapter 40 to the Code of Federal Regulations |
| APCO | Air Pollution Control Officer |
| CCR | California Code of Regulations |
| CEMS | continuous emissions monitoring system |
| CO | carbon monoxide |
| CO ₂ | carbon dioxide |
| District | San Luis Obispo County Air Pollution Control District |
| g/o | greater of |

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

| | |
|-----------------|--|
| gr/dscf | grains per dry standard cubic foot |
| H&SC | California Health and Safety Code |
| lb/hr | pounds per hour |
| lb/mmBtu | pounds per million British thermal units |
| MBPP | Morro Bay Power Plant |
| MW | Megawatt electric |
| MWge | gross Megawatt electrical |
| NH ₃ | ammonia |
| NMOC | non-methane organic compounds |
| NO _x | oxides of nitrogen |
| NO ₂ | nitrogen dioxide |
| O ₂ | oxygen |
| PM10 | particulate matter less than 10 microns |
| ppmv | parts per million by volume |
| QA | quality assurance |
| RVP | Reid vapor pressure |
| scfh | standard cubic feet per hour |
| SIC | Standard Industrial Classification |
| SIP | State of California Implementation Plan |
| SO _x | oxides of sulfur |
| SO ₂ | sulfur dioxide |
| TPH | total petroleum hydrocarbons |
| tpy | tons per year |
| TVP | true vapor pressure |
| VOC | volatile organic compounds |

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

I. Specific Emission and Operational Limits

A. Emission Limits. The following emission limits shall apply to the identified units. Any operation of a boiler unit on a mixture of oil and gas shall be considered as operating on oil.

| Unit | Limit | | | | Compliance | Notes |
|------------------|-------|-----------------|-----|------------|--|--|
| Boilers 1 and 2 | 1. | NO _x | gas | 150 ppmv | continuous emissions monitoring | notes (a), (b), & (c) [District-only, Rule 429.D.1] |
| | 2. | | oil | 450 ppmv | | |
| Boilers 3 and 4 | 3. | NO _x | gas | 56 ppmv | | notes (a)&(b)[SIP Rule 201 & District-only, Rule 429.D.1] |
| | 4. | | oil | 250 ppmv | | |
| | 5. | NO _x | gas | 225 ppmv | | corrected to three percent oxygen [SIP Rule 405.A.1] |
| | 6. | | oil | 300 ppmv | | |
| Boilers 1,2,3,&4 | 7. | CO | | 1,000 ppmv | annual test | notes (a) & (b) [District-only, Rule 429.D.2] |
| | 8. | | | 2,000 ppmv | | dry basis, intentional duplication of condition III.A.1.e [SIP Rule 406.A] |
| | 9. | NH ₃ | | 10 ppmv | annual test if used for emission control | notes (a) & (b) [District-only, Rule 429.D.3] |

notes: (a) One clock hour average at three percent oxygen on a dry basis.

(b) For steady state compliance testing, the emission limits shall be based on a sixty (60) consecutive minute average.

(c) The emission limits may be adjusted upward to include testing equipment error as follows:

(1) for periodic compliance testing, five percent (5%) of the applicable limit; and

(2) for continuous in-stack monitoring, ten percent (10%) of the applicable limit or 2 ppmv, whichever is greater.

10. Oxides of nitrogen emissions during fuel changes shall not exceed the applicable fuel oil limit. Should the duration of the fuel change exceed twelve (12) hours, then the limit expressed in condition I.A.11 shall apply. The APCO must be notified in advance of the fuel change in order to qualify for the fuel oil limit except where force majeure natural gas curtailment conditions preclude advanced notification. [District-only, Rule 429.D.1.e]

11. Oxides of nitrogen emissions for boilers firing on mixture of oil and gas shall not exceed the following calculated limit: [District-only, Rule 429.D.1.f]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

$$\text{NO}_x \text{ limit} = (\text{OF})(\text{oil NO}_x \text{ limit}) + (\text{GF})(\text{gas NO}_x \text{ limit})$$

where: OF = total heat input from oil / total heat input

GF = total heat input from gas / total heat input

12. The emission limitations listed in conditions I.A.1, I.A.2, I.A.3, and I.A.7 shall not apply during:
[District-only, Rule 429.C.1]
- a. periods of start-up, not to exceed twelve (12) hours; or
 - b. periods of shut-down, not to exceed eight (8) hours; or
 - c. APCO-approved control system calibration and tuning, not to exceed forty-eight (48) hours, following maintenance or overhaul of a boiler or its control system. To qualify for this exemption, the APCO shall receive notice at least forty-eight (48) hours prior to any calibration and tuning or at the beginning of maintenance if it is of an emergency or unforeseen nature.

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

B. Operational Limits. The following operational limits shall apply to the specified units. Compliance will be determined through recordkeeping except as noted. [District-only, Rule 206]

| Unit | | | Parameter | Limit | Notes |
|----------|----|---|-------------------|---|--|
| A | 1. | Boiler 3 & 4 | heat input | 3.5 billion Btu per hour (each) & 76.8 Billion Btu per day (each) | |
| D | 2. | off-site boilers (2) | annual use factor | 77% (each) | hours in-use divided by hours in a calendar year |
| O-7& O-8 | 3. | offsite fuel oil storage tanks | TVP | ≤1.2 psia | |
| O-9 | 4. | offsite displacement oil tank | TVP | <1.5 psia | |
| O&P | 5. | fuel oil and displacement oil storage tanks | TVP | <0.5 psia | |

6. Until December 31, 2002, fuel oil shall not be burned in any main boiler unit except under the following circumstances: [District-only, Rules 107 and 429.D.4]
- force majeure natural gas curtailment;
 - oil burn readiness testing or required performance testing not to exceed a total of twenty-four (24) hours annually between May 1 and October 31 and a total of ninety-six (96) hours per year;
 - oil burn emission testing required by the APCO; and
 - during periods when breakdown relief has been granted under District Rule 107.

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

II. Facility Description

- A. General.** This facility produces electrical power for California's electrical distribution grid and has a Standard Industrial Classification (SIC) Code of 4911. Four natural gas or oil fired boilers produce the steam necessary for their corresponding turbine-generators to produce 1,030 megawatts (gross). While oil is included in this permit as a back-up fuel, all of the oil storage tanks are currently empty and the marine unloading terminal is in 'caretaker' status and unusable. Consequently, much of the support equipment included in this permit is not currently in use: on-site and off-site fuel oil and displacement oil storage tanks; and off-site storage boiler and oil-water separator systems.

Main boiler units 3 and 4 have undergone modifications to reduce their oxides of nitrogen (NO_x) emissions. Each now has flue gas recirculation, overfire air ports, and low-NO_x burners and are meeting a 56 ppmv limit established by District Rule 429. No modifications to main boiler units 1 and 2 have yet been necessary to meet Rule 429's limitations. Continuous emission monitoring systems (CEMS) are installed on each of the four main boiler units.

This facility is subject to the federal Acid Rain Program. Consequently, this permit is intended to be a combined Acid Rain (Title IV) and federal operating (Title V) permit.

- B. Specific Equipment.** Equipment descriptions are organized by process. Major emission units are listed but all associated valves, flanges, piping, and minor emission units, which are not explicitly identified, are also included in this permit and subject to their respective major emission unit's requirements.

1. Process Unit A, Electrical Power Generation; consisting of:

| TITLE | | HEAT INPUT/ STEAM OUTPUT RATING | CAPACITY | DESCRIPTION |
|-------|----------|---------------------------------------|----------|---|
| a. | Boiler 1 | 1,700 mmBtuh | 170 MW | Combustion Engineering, radiant heat boiler, gas or oil fired |
| b. | CEMS-1 | n/a | n/a | Perkin-Elmer MCS 100 - NO _x /CO ₂ /CO |
| c. | Boiler 2 | 1,700 mmBtuh | 170 MW | Combustion Engineering, radiant heat boiler, gas or oil fired |
| d. | CEMS-2 | n/a | n/a | Perkin-Elmer MCS 100 - NO _x /CO ₂ /CO |

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

1. Process Unit A, Electrical Power Generation. (continued)

| TITLE | | HEAT INPUT/ STEAM OUTPUT RATING | CAPACITY | DESCRIPTION |
|-------|--|--|--------------|---|
| e. | Boiler 3 | 3,200 mmBtuh | 345 MW | Babcock and Wilcox, radiant heat boiler, gas or oil fired, equipped with flue gas recirculation and over-fire air ports |
| | | 2.2 million lb/hr steam | | |
| | burners (24) | 160 mmBtuh-gas and 165 mmBtuh-oil each | | Babcock and Wilcox “S” type |
| f. | CEMS-3 | n/a | n/a | Perkin-Elmer MCS 100 - NO _x /CO ₂ /CO and TECO Model 400 Transmissometer double-pass continuous opacity monitor |
| g. | Boiler 4 | 3,200 mmBtuh | 345 MW | Babcock and Wilcox, radiant heat boiler, gas or oil fired, equipped with flue gas recirculation and over-fire air ports |
| | | 2.2 million lb/hr steam | | |
| | burners (24) | 160 mmBtuh-gas and 165 mmBtuh-oil each | | Babcock and Wilcox “S” type |
| h. | CEMS-4 | n/a | n/a | Perkin-Elmer MCS 100 - NO _x /CO ₂ /CO and TECO Model 400 Transmissometer double-pass continuous opacity monitor |
| i. | fuel oil additive system, with injection pumps | | n/a | n/a |
| 1) | | day tank (2) | 300 gal each | n/a |
| 2) | | additive tank | 9,000 gallon | common to main boiler units 3 & 4 |

2. Process Unit C, Portable Abrasive Blasting Equipment; consisting of:

| TITLE | CAPACITY | DESCRIPTION |
|---------|----------|---------------------------------------|
| sandpot | 150 lb | Clemco, model SCW-1440, or equivalent |

3. Process Unit D, Off-Site Steam Generators; consisting of:

| TITLE | RATING | CAPACITY | SERIAL | DESCRIPTION |
|-------|---------|-------------------|--------------------|--|
| a. | Duke #2 | 14.65 mmBtuh each | 350 boiler hp each | Cleaver Brooks, model CB-600X-350, fire tube, displacement oil fired |
| b. | | | | |

4. Process Unit E, Oil-Water Separator System; consisting of:

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

| TITLE | | CAPACITY | DESCRIPTION |
|-------|--------------------------|------------|---------------|
| a. | separation tank | 100 gpm | n/a |
| b. | retention pressure tank | n/a | n/a |
| c. | skimmer tank | n/a | n/a |
| d. | settling tank | n/a | n/a |
| e. | particulate filter | n/a | n/a |
| f. | oil sludge pond | 28,000 gal | 30 ft x 30 ft |
| g. | water holding pond | n/a | n/a |
| h. | water treatment facility | n/a | n/a |

5. Process Unit F, Abrasive Blasting Facility; consisting of:

| TITLE | | RATING | DIMENSIONS | DESCRIPTION |
|-------|----------------|--------|--------------------|--|
| a. | blast booth | n/a | 20ft x 50ft x 18ft | n/a |
| 1) | dust collector | n/a | n/a | Torit 4DF64 cartridge filter |
| 2) | exhaust fan | 50 hp | n/a | Buffalo model BL730, class II, or equivalent |

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

6. Process Unit O, Off-Site Storage Tanks; consisting of:

| TITLE | | CAPACITY | DESCRIPTION |
|-------|---------------------------------------|------------------|---|
| a. | fuel oil tank (2, Duke numbers 6 & 7) | 500,000 bbl each | welded shell, insulated with internal steam heater, external pontoon floating roof, single mechanical shoe seal, 273 ft dia |
| b. | displacement oil tank (Duke number 2) | 43,000 bbl | insulated welded shell, external pontoon floating roof, single mechanical shoe seal, 95 ft dia |

7. Process Unit P, On-Site Storage Tanks; consisting of:

| TITLE | | RATING | CAPACITY | DESCRIPTION |
|-------|---------------------------------------|--------|------------------|---|
| a. | displacement oil tank (Duke number 1) | n/a | 54,000 bbl | welded shell, insulated with external steam heater, external floating roof with single mechanical shoe seal |
| b. | fuel oil tank (5) | n/a | 160,000 bbl each | welded shell, internal floating roof |
| c. | external steam heater recirc pump | 40 hp | n/a | n/a |
| d. | internal standby steam heater (6) | n/a | n/a | n/a |

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- C. Insignificant Equipment.** The following equipment and equipment types are considered environmentally insignificant. This equipment is not subject to the provisions of this permit except for those units which are subject to a federally-enforceable, generally applicable requirement as listed in condition III.A.1.

| Description | Basis for Insignificance |
|--|---------------------------------|
| boiler blowdown holding tank | Rule 201.A.1 |
| chemical cleaning holding ponds | Rule 201.A.1 |
| diesel fuel dispensing facility | Rule 201.A.1 |
| facility-wide metal cutting operations | Rule 201.A.1 |
| diesel engine driven standby generator | Rule 201.B.3 |
| diesel engine driven firewater pumps | Rule 201.B.3 |
| waste oil storage tank (1,000 gallon capacity) | Rule 201.A.1 |
| fire water pump diesel storage tanks | Rule 201.I.3 |
| lube oil storage, clean and dirty | Rule 201.I.8 |
| gasoline fuel dispensing facility | Rule 201.I.9 |
| architectural coating spray guns | Rule 201.J.1 |
| cold solvent cleaners | Rule 201.J.2 |
| comfort air conditioning | Rule 201.M.1 |
| comfort space heating | Rule 201.M.5 |
| welding equipment | Rule 201.N.2 |

III. Conditions

A. Standard Conditions

- 1. Generally Applicable Requirements.** For the purposes of this permit, all requirements shall be based on standard conditions of 60°F and 14.7 psia. [SIP Rule 106]
 - a. Visible emissions shall not exceed Ringlemann #2 or forty percent (40%) opacity for a period exceeding three (3) minutes aggregated in any sixty (60) minute period of time. [H&SC 41701 and SIP Rule 401]
 - 1) This condition shall not apply to open outdoor fires, which have been approved by the APCO, for the purposes of employee instruction in fire fighting methods. [SIP Rule 401.B.3]
 - b. If the APCO determines that the operation of this equipment is causing a public nuisance, Duke Energy shall take immediate action to eliminate such nuisance. [District-only, Rule 402]
 - c. Particulate matter emissions shall not exceed any of the following: [SIP Regulation IV, Rule 113]
 - 1) 0.3 gr/dscf, on an hourly basis, for all emission units except combustion devices;
 - 2) that lb/hr amount identified in Table I of SIP Rule IV.113 depending on process rate;
 - 3) 0.3 gr/scf corrected to 3% O₂ (wet) for combustion device emission units; or
 - 4) 0.3 gr/scf corrected to 12% CO₂ for combustion device emission units. [District-only, Rule 403]
 - d. Sulfur Compound Limitations [SIP Rules 114.1 and 404.E]
 - 1) Sulfur compound emissions shall not exceed 0.2 percent by volume of sulfur compounds calculated as sulfur dioxide.
 - 2) Gaseous fuel sulfur content shall not exceed 50 gr/100 dscf (797 ppmv) total sulfur (as H₂S at standard conditions).
 - 3) Liquid fuel sulfur content shall not exceed 0.5 wt% sulfur.
 - e. Carbon monoxide emissions shall not exceed 2000 ppmv at standard conditions, except for internal combustion engines. [SIP Rule 406]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- f. Metal surface coatings shall not be thinned or reduced with photochemically reactive solvents, as defined in District Rule 407. [SIP Rule 407.H.2]
- g. Architectural coatings, which are purchased in containers of larger than one quart capacity, shall not contain photochemically reactive solvents nor shall they be thinned or reduced with photochemically reactive solvents. [SIP Rule 407.H.3]
- h. With the exception of unavoidable losses during handling, no photochemically reactive solvent, or any material containing that amount of photochemically reactive solvent, may be evaporated in any given day during the disposal of that solvent or material. [Rule 206 and SIP Rule 407.H.4]
- i. This facility must comply with all applicable provisions of the Air Toxic "Hot Spots" Act as set forth in Health and Safety Code Section 44300 (*et seq.*). [District-only, H&SC 44300 (*et seq.*) and, District-only, Rule 204.F.1]
- j. All abrasive blasting shall be conducted in accordance with Title 17 of the California Code of Regulations (CCR). [District-only, CCR92000 (*et seq.*) and, District-only, Rule 206]
 - 1) Each operator of this equipment shall be supplied with a copy of the abrasive blasting provisions of Title 17 and the APCO prepared summary of Title 17.
 - 2) Abrasive blasting of items smaller than eight feet must be conducted within an enclosure or indoors.
 - 3) All dry, unconfined blasting shall utilize ARB certified abrasives.
 - 4) Areas surrounding the blasting operation shall be periodically washed, swept, vacuumed, or otherwise cleaned to prevent re-entrainment of dust.
- k. This equipment shall be operated consistent with the information provided in the Titles IV and V applications under which this permit, or previous versions of this permit, were issued and shall be maintained in good working order at all times and in such a manner as to minimize the emission of air contaminants. [District-only, Rule 206]
- l. The APCO shall be notified in writing before any changes are made in the design, construction, or operation of this equipment or any modifications are made to process condition which might increase the emission of air contaminants. [District-only, Rule 202]
- m. All subject processes shall comply with the provisions of 40 CFR 61, National Emission Standards for Hazardous Air Pollutants, subpart A, General Provisions, and subpart M, Asbestos. [40CFR61.05.c and subpart M]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- 1) Duke Energy shall not fail to report, revise reports, or report source test results as required by subpart M. [40CFR61.05.d]
 - 2) Any change to the information provided in the initial notification under 40CFR61.10.a shall be submitted to the APCO no later than 30 days after that change. [40CFR61.10.c]
 - 3) Each subject process shall be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions. [40CFR61.12.c]
- n. Any gasoline transfer to a stationary storage tank shall utilize a permanently installed submerged fill pipe and a tight-fitting nozzle. [SIP Rule 407.C.1.a]
- o. Duke Energy shall follow good operating practices when storing or transferring gasoline including: [SIP Rule 424.B.5]
- 1) preventing spills;
 - 2) utilizing closed storage containers; and
 - 3) disposing of any gasoline in compliance with all applicable federal, state, and local regulations.
- p. Duke Energy shall ensure that cold solvent metal cleaning devices, with the exception of wipe clean operations:
- 1) utilize: [SIP Rule 416.B]
 - i. a container for the solvent and the articles being cleaned;
 - ii. a cover, easily operated with one hand, which prevents the solvent from evaporating when the cleaning device is not in use;
 - iii. a shelf for draining cleaned parts such that the drained solvent is returned to the solvent storage container;
 - iv. a permanent, conspicuous label, which lists all applicable operating requirements; and
 - v. a freeboard ratio equal to or greater than 0.75, if the solvent surface area is greater than or equal to 5.4 square feet; and

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- 2) are operated as follows. [SIP Rule 416.C]
 - i. All degreasing equipment and emission control equipment must be operated and maintained in good working order.
 - ii. No solvent may be allowed to leak from the degreasing equipment.
 - iii. All solvent must be stored and disposed of in a manner which prevents its evaporation to the atmosphere.
 - iv. The cover of any cleaning device shall not be removed unless that device is in use or undergoing maintenance.
 - v. The operator shall drain parts for at least 15 seconds after cleaning or until dripping ceases.
 - vi. Flowing solvent shall consist of a liquid stream and not a fine, atomized, or shower type spray; and the motive pressure for that solvent flow shall be sufficiently low to prevent the splashing of solvent beyond the container.
- q. Duke Energy shall not ignite or maintain an open outdoor fire except as approved by the APCO for the purposes of employee instruction in fire fighting methods. [SIP Rule 501.A]

2. Compliance with Permit Conditions [Rule 216]

- a. Duke Energy shall comply with all terms and conditions of this permit. [Rule 216.F.1.f for all 'federally-enforceable' conditions and, District-only, Rule 206 for 'District-only' enforceable conditions]
- b. The need to halt or reduce a permitted activity in order to maintain compliance shall not be used as a defense for noncompliance with any permit condition.
- c. This permit may be reopened by the APCO at any time for cause. For the purposes of this permit, the following circumstances shall constitute cause. [Rule 216.K.1]
 - 1) Duke Energy becomes subject to an additional federally-enforceable requirement, the remaining term of this permit is three years or more, and the effective date of that requirement is not later than the date on which this permit is due to be reissued.
 - 2) The APCO or the EPA determine that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards, terms, or conditions of the permit.

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- 3) The APCO determines that this permit must be revised or revoked to assure compliance with any applicable requirement, or EPA determines that the permit must be revised or revoked to assure compliance with any federally-enforceable requirement.
- d. This permit does not convey property rights or exclusive privilege of any sort.
- e. Within a reasonable time period, Duke Energy shall furnish any information requested by the APCO, for the purpose of determining:
 - 1) compliance with this permit;
 - 2) air contaminant emissions;
 - 3) whether or not cause exists to modify, revoke, reissue, or terminate this permit; or
 - 4) whether or not cause exists for an enforcement action.
- f. Continuing non-compliance with any federally-enforceable permit condition is grounds for permit termination, revocation and reissuance, modification, enforcement action, or denial of permit renewal.
- g. If Duke Energy is not in compliance with any federally-enforceable requirement and a variance is obtained from the District's Hearing Board, Duke Energy shall submit to the APCO a schedule of compliance, which has been approved by the Hearing Board, as an administrative amendment to this permit.
- h. A pending permit action, or notification of anticipated noncompliance, does not stay any condition of this permit.
- i. All terms and conditions of this permit are enforceable by the EPA Administrator and citizens of the United States under the federal Clean Air Act unless referenced as being based on a District-only requirement. All terms and conditions of this permit, including those referenced as being based on a District-only requirement, are enforceable by the APCO.
- j. This permit, or a true copy, shall be made readily accessible at Duke Energy's Morro Bay power plant and shall not be altered or defaced in any way. [SIP Rule 201.E&F]
- k. The terms and conditions of this permit shall apply to the equipment listed herein, which is operated by either Duke Energy or their contractor(s), and located at 1290 Embarcadero, Morro Bay, California, at Duke Energy's offsite storage facility north of State Highway 41, or on contiguous properties to those addresses, which are owned and controlled by Duke Energy.

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- l. Any change in the designated representative shall be documented by the submission of a certification of representation to EPA headquarters with a copy to the APCO. [40CFR72.23.a]
 - m. Within 30 days following any change in the owners or operators, the designated representative shall submit a certification of representation to EPA headquarters with a copy to the APCO. [40CFR72.23.c.2]
- 3. **Emergency Provisions.** Duke Energy shall comply with the requirements of District Rule 107, Upset and breakdown Conditions. [Rule 107]
- 4. **Compliance Plan** [Rule 216]
 - a. Duke Energy will continue to comply with those permit conditions with which it is in compliance, as identified in this permit.
 - b. Duke Energy shall comply with all federally enforceable requirements that become applicable during the permit term, in a timely manner, as identified in this permit.
 - c. Duke Energy shall comply with all APCO approved compliance plans. [District-only]
- 5. **Right of Entry.** The Regional Administrator of U.S. Environmental Protection Agency, the Executive Officer of the California Air Resources Board, the APCO, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises and, at reasonable times, be permitted to: [Rule 216.F.2.a]
 - a. inspect the stationary source, including equipment, work practices, operations, and emission-related activity;
 - b. inspect and duplicate records required by this Permit to Operate; and
 - c. sample substances or monitor emissions from the source or other parameters to assure compliance with the permit or applicable requirements. Monitoring of emissions can include source testing.
- 6. **Severability.** The provisions of this Permit to Operate are severable, and, if any provision of this Permit to Operate is held invalid, the remainder of this Permit to Operate shall not be affected thereby. [Rule 216]
- 7. **Circumvention.** Duke Energy shall not build, erect, install, or use, any article, machine, equipment, or process subject to an applicable standard, if the use of which conceals an emission that would otherwise constitute a violation of that standard. [40CFR60.12, 61.19]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

8. **Permit Life.** This Permit to Operate shall become invalid five years from the date of issuance unless a timely and complete renewal application is submitted to the District. Duke Energy shall apply for renewal of this permit no later than six months before the date of expiration. Upon submittal of a timely and complete renewal application, this permit to operate shall remain in effect until the APCO issues or denies the renewal application. [Rule 216]
9. **Payment of Fees.** Duke Energy shall remit Title V compliance determinations fees to the District in response to the District's invoice on a timely basis. Failure to remit fees in accordance with District Rule 302 shall result in forfeiture of this Permit to Operate. Operation without a permit to operate subjects the source to potential enforcement action by the District and the U.S. EPA pursuant to section 502(a) of the Clean Air Act. [Rule 216]
- B. **Specific Recordkeeping, Inspection, and Reporting Requirements.** All records must be retained for a minimum of five (5) years and be made available to the APCO upon request. For the purposes of this permit, records shall be considered all calibration and maintenance records, all original strip-chart or electronic recordings for continuous monitoring and instrumentation, all records specifically required to be maintained herein, and copies of all reports required to be submitted herein. [District-only, Rule 206, for "District-only" records; 40CFR60.7.f for off-site storage tanks; and Rule 216.F.1 for all records other than those which are "District-only"]
1. **Recordkeeping.** Duke Energy shall record:
 - a. For all four main boiler units, unless otherwise noted, and on an hourly basis:
 - 1) continuous emission monitoring data as required by 40CFR75.54.b; [40CFR75.54.b]
 - 2) NO_x emissions data as required by 40CFR75.54.d and 40CFR75.12.b; [40CFR75.54.d & 40CFR75.12.b]
 - 3) CO₂ emissions data as required by 40CFR75.54.e.2; [40CFR75.54.e.2]
 - 4) SO₂ emissions data, when burning oil, as required by 40CFR75.55.c.1&4; and [40CFR75.55.c.1&4]
 - 5) SO₂ emissions data, when burning natural gas, as required by 40CFR75.55.c.3. [40CFR75.55.c.3]
 - b. The following data for each certified continuous emission monitoring system:
 - 1) NO_x and CO₂ monitor daily test, seven-day calibration error test, and corrective action follow-up test data as required by 40CFR75.52.a.1 and 40CFR75.56.a.1; [40CFR75.52.a.1 & 75.56.a.1]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- 2) NO_x and CO₂ monitor quarterly linearity check data as required by 40CFR75.52.a.3 and 40CFR75.56.a.3; [40CFR75.52.a.3 & 75.56.a.3]
 - 3) NO_x and CO₂ monitor relative accuracy tests and test audit data as required by 40CFR75.52.a.5&6 and 40CFR75.56.a.5; [40CFR75.52.a.5&6 & 75.56.a.5]
 - 4) NO_x and CO₂ monitor cycle time test data as required by 40CFR75.56.a.6; [40CFR75.56.a.6]
 - 5) the results of all trial runs, trial certification tests, quality assurance (QA) activities, and QA measurements necessary to substantiate compliance with all relevant requirements as required by 40CFR75.52.a.7 and 40CFR75.56.a.7; and [40CFR75.52.a.7 & 75.56.a.7]
 - 6) CO monitoring data as required by 40CFR60.7(d) Figure 1 and 40CFR60.App F.4.4. [40CFR60.7(d) & 60.App F.4.4]
- c. SO₂ emission fuel flow meter certification and quality assurance test data as required by 40CFR75.56.b.1. [40CFR75.56.b.1]
- d. For each main boiler unit: [District-only, Rule 429.E.1]
- 1) gross and net energy production in megawatt hours (MW-hrs) calculated on a daily basis;
 - 2) quantity of natural gas burned on an hourly basis, or
 - 3) quantity of fuel oil burned on an hourly basis,
 - 4) type of fuel oil burned and its sulfur content for each period of operation on fuel oil, and
 - 5) the injection rate of reactant chemicals used for NO_x emission reduction, if any, on an hourly basis;
 - 6) the CO emission rate in lb/hr and ppmv, corrected to three percent (3%) O₂ on dry basis, based on data from the CEMS on an hourly basis;
 - 7) the NO_x emission rate in lb/hr and ppmv, corrected to three percent (3%) O₂ on dry basis, based on data from the CEMS on an hourly basis; [Rule 206 for Units 3&4 NO_x concentrations]
 - 8) the quarterly and annual NO_x emission rate in lb/mmBtu; [40CFR75.12.b]
 - 9) the quarterly and cumulative SO₂ mass emission rate and heat input for each calendar quarter and each calendar year by summing hourly values; [40CFR75.App D.3.4]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- 10) the dates, times and duration of any start-up and shut-down periods; and
 - 11) the facility-wide NO_x emissions in tons per day calculated on a daily basis at such time as Duke Energy opts to comply with condition III.F.1.a.2 of this permit and no later than December 31, 2002.
 - 12) the heat input, in billion Btu, to boilers 3 & 4 on an hourly and daily basis.
- e. The manufacturer's brand name and designation of each solvent used to thin or reduce any coating which is applied to a metal surface by either Duke Energy or any contractor employed by Duke Energy. Purchase records will be sufficient to satisfy this recordkeeping requirement. Material Data Safety Sheet information sufficient to determine the non-photochemical reactivity of those solvents shall be maintained within easy access of this record. [SIP Rule 407.H.2]
 - f. The manufacturer's brand name and designation of each architectural coating used in containers of one quart capacity or larger, and the solvent used to thin or reduce those coatings, which is applied by either Duke Energy or any contractor employed by Duke Energy. Purchase records will be sufficient to satisfy this recordkeeping requirement. Material Data Safety Sheet information sufficient to determine the non-photochemical reactivity of those coatings and solvents shall be maintained within easy access of this record. [SIP Rule 407.H.3]
- 2. Files to be Maintained.** Duke Energy shall maintain the following files, retain them for a minimum of five (5) years, and make them available to the APCO upon request: [40CFR75.54.a]
- a. supporting data and information used to calculate values required to be recorded under condition III.B.1.a; [40CFR75.54.a.2]
 - b. certification test data and information recorded under condition III.B.1.b; [40CFR75.54.a.4]
 - c. the monitoring plan required under condition III.C.1.b; [40CFR75.54.a.5]
 - d. the quality control plan required under condition III.C.1.b; and [40CFR75.54.a.6]
 - e. an operating log shall be maintained at the abrasive blasting booth, process unit F, and made available upon request. At a minimum, the log shall include hours of operation, type of abrasives used, and a copy of Title 17. [District-only, Rule 206]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

3. Inspections, Calibrations, and Sampling. Duke Energy shall inspect, calibrate, or sample, the following processes as indicated. The results shall be recorded in an operational log or as specified. [Rule 206 and, for "District-only" inspections, District-only, Rule 206]

- a. Performance criteria for the periodic checks required by these conditions are as follows. Any percent value refers to percent (%) of instrument scale unless otherwise noted.
[40CFR75.App A.3 for NO_x & CO₂ and 40CFR60.App F for CO]

| Test | Freq- uency | Para- meter | Warning Level | Out-of-Control Level |
|------------------------------------|------------------------|----------------------------|--------------------------------------|---|
| Calibration Error Check | daily | NO channel | 2.5-5.0% | greater of (g/o) >10.0 ppm or >5.0% [40CFR60.App B.2.1.4] |
| | | CO ₂ channel | 0.50% of measured CO ₂ | >1.0% of measured CO ₂ [40CFR75.App B.2.1.4] |
| | | CO | 5.0-10.0% | >20.0% for 1 day or >10.0% for 5 days [40CFR60.App F.4.3.1& B.2.2] |
| 3 Point Lin- earity Check | quarterly | NO _x | | g/o 5.0 ppm or >5.0% at each of 3 test levels |
| | | CO ₂ | | g/o 0.50% or >5.0% of each of 3 test levels [40CFR75.App A.3.2] |
| 2 Point Lin- earity Check | 3 out of 4 quarters | CO | | g/o ±5.0 ppm or >15.0% of the average audit value |
| Relative Accuracy Test Audit | annually (a) | NO _x | | >10.0% or ±0.020 lb/mmBtu |
| | | CO | | g/o >10.0% or >50.0 ppmv [40CFR60.App B.Spec 4.2.3] |

Note (a) Increase RATA frequency to semiannual if results exceed 7.50% or ±0.010 lb/mmBtu.
[40CFR75.App B.2.3.1]

- b. On a **daily** basis.

| Process | Description | | Parameter |
|---------------------------|-------------|--|--|
| main boilers 1,2,3,& 4 | 1) | NO _x /CO ₂ CEMS | Conduct a calibration error test. [40CFR75.App B.2.1] |
| main boilers 1,2,3,& 4 | 2) | CO CEMS | Conduct a calibration error test. [District-only 40CFR60.App F.4.1] |

(continued)

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

b. On a **daily** basis. (continued)

| Process | Description | | Parameter |
|-----------------------|-------------|-----------------|---|
| main boilers 3 & 4 | 3) | opacity CEMS | Conduct a calibration drift assessment check and faulty lamp indicator check. [District-only, Rule 206] |

c. On a **quarterly** basis.

| Process | Description | | Parameter |
|------------------------------|-------------|--|--|
| main boilers 1,2,3,& 4 | 1) | NO _x /CO ₂ CEMS | Conduct a three point linearity check. [40CFR75, App. B.2.2] |
| | 2) | CO CEMS | Conduct a two point linearity check in three out of every four calendar quarters. [40CFR60.App F.5.1] |
| main boilers 3&4 | 3) | opacity CEMS | Inspect for optical surface dust accumulation, zero/upscale response, and zero compensation. [District-only, Rule 206] |

d. On an **annual** basis.

| Process | Description | | Parameter |
|---------------------------|-------------|--|--|
| main boilers 1,2,3,& 4 | 1) | NO _x /CO ₂ /CO CEMS | i. Conduct a relative accuracy test audit (RATA). [40CFR75, App B.2.3] |
| | | | ii. Written or telephone notification of RATA testing shall be submitted to the APCO, with a copy to the EPA Region IX Administrator, at least 7 days prior to the first scheduled day of testing. [40CFR75.61.a.1.ii] |
| | 2) | CO CEMS | Conduct a RATA. [District-only, 40CFR60.App F.5.1.1] |
| main boilers 3 & 4 | 3) | opacity CEMS | Conduct calibration error, optical alignment, and zero alignment checks. See note (a). [District-only, Rule 206] |

Note (a) These checks shall also be performed if any optical surface is moved, or following selected instrument part replacement as indicated in the manufacturer's technical manual including the replacement of: a lamp, a detector assembly, an optical chopper, a mirror pick-up, or a soldered connection.

4. Unusual Operating Conditions, Actions, and Reporting [District-only, Rule 206]

a. Main Boiler Fuel Oil Firing

- 1) The District shall be notified prior to fuel oil firing and after returning to natural gas fuel.
- 2) At any time, failure of the natural gas supply system may be considered as a breakdown in accordance with District Rule 107.
- 3) Soot-blowing shall be conducted on a continuously cycling basis during oil firing.
- 4) The fuel oil additive system shall be utilized at all times during oil firing on main boiler units 3 and 4.
- 5) The mix ratio of additive to fuel oil shall not drop below that which supplies the equivalent of 4 lb MgO/8,000 gallon fuel oil, one gallon IPC-R-900/8,000 gallon, except during start-up of the system, which is not to exceed 30 minutes for any period of fuel oil burning. Analytical results will be supplied to the District if further optimization of the additive system is conducted.
- 6) The fuel oil additive shall be metered into the fuel oil line with a District approved system for verification of the use rate.
- 7) A District accessible flow meter shall be maintained on the fuel oil supply lines to indicate fuel oil delivered to the burners. [40CFR75.App D.2.1.2]
- 8) Any fuel flow meter, used to determine SO₂ emissions under appendix D to 40CFR75, shall be recalibrated prior to use, if its certification has expired. [40CFR75.App D.2.1.6.1]
- 9) A representative fuel oil sample shall be drawn and analyzed for sulfur and heat content each day that any unit is burning oil. Split samples shall be obtained with one sample undergoing analysis and the other sample, appropriately labeled with a chain-of-custody information and being of at least 200 cubic centimeters in volume, retained for not less than 90 days after the end of the current calendar year allowance period. [SIP Rule 114.1 for sulfur analysis and 40CFR75.App D.2.2.2, 2.2.5, and 2.2.7 for all requirements]

b. CEMS Recertification

- 1) Any NO_x/CO₂/CO monitor, which undergoes replacement, modification, or change that significantly affects its ability to meet the requirements of this permit, must be recertified. [40CFR75.20.b]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- 2) Written or telephone notification of recertification testing shall be submitted to the EPA Region IX Administrator, with a copy to the APCO, at least 7 days prior to the first scheduled day of testing. [40CFR75.61.a.1.ii]
- c. Reports of Violations. Any violation of any emission limit in condition I.A, as indicated by the records of the monitoring device, shall be reported by the operator of the source to the APCO within 48 hours after such occurrence. [Rule 113.H.3 and SIP Rule I.113.IV.C]
- d. Monitoring Equipment Breakdown or Shutdown. As soon as reasonably possible, but in any case within four (4) hours, after its detection, notify the APCO of any breakdown or shutdown of any CEMS equipment. [District-only, Rules 206 and 113.H.4]
- e. Any deviation from any requirement in this permit, excluding those reported under District Rule 107, Breakdown and Upset Conditions, shall be reported to the APCO as follows: [Rule 216.F.1.n]
 - 1) as soon as reasonably possible, but in any case within four (4) hours, after its detection; and
 - 2) as soon as the occurrence has been corrected, but no later than 10 calendar days after the event, through a written report which includes the probable cause of the deviation and the corrective actions or preventative measures taken.
- f. At least 10 working days before asbestos stripping or removal work, the APCO shall be notified as required by section 61.145.b.3.i of 40CFR61 subpart M, National Emission Standard for Asbestos. [40CFR61.145.b.3.i]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- 5. Reporting.** Each report due on the date indicated in the following table should include data for the respective time periods in any given year, unless otherwise indicated. [Rule 206]

| Due Date | Quarterly Data | Semi-annual Data | Annual Data |
|------------|-------------------------------|----------------------------|-------------------------------|
| January 31 | October 1 through December 31 | July 1 through December 31 | |
| March 1 | | | January 1 through December 31 |
| April 30 | January 1 through March 31 | | |
| July 31 | April 1 through June 30 | January 1 through June 30 | |
| October 31 | July 1 through September 30 | | |

- a. On a **quarterly** basis, no later than January 31, April 30, July 31, and October 31 of any given year.
- 1) Duke Energy shall submit a report to the APCO, which includes the following data:
[District-only, Rule 206]
- i. CEMS system performance based on: [District-only, Rule 113]
- $$\frac{(\text{total CEMS downtime in hours})}{(\text{total source operating time in hours})} \times 100$$
- where the total of CEMS downtime is to be listed as:
- (a) monitor equipment malfunctions,
- (b) non-monitor equipment malfunctions,
- (c) quality assurance calibration,
- (d) other known causes, and
- (e) unknown causes;
- ii. either, [District-only, Rule 113]
- (a) an affirmative statement of, "No excess emissions", or

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- (b) an excess emission data summary based on:

$$\frac{(\text{total duration of excess emissions in hours})}{(\text{total source operating time in hours})} \times 100$$

where excess emissions shall be quantified per the applicable rule or regulation placing the limit exceeded;

- iii. for each exceedance, the date and time, concentration, current emission limit, cause (if known), and corrective or protective actions taken; and
 - iv. A results summary of any CEMS relative accuracy test audit performed during the respective quarter.
- 2) Duke Energy shall submit the Electronic Data Report information identified in 40CFR75.64 to the EPA administrator. Each report shall be certified to be true, accurate, and correct by a responsible official. [40CFR75.64.a]
- b. On a **semi-annual** basis, Duke Energy shall submit a report to the APCO, with a copy to the EPA Region IX Administrator. Each report shall be submitted no later than January 31 and July 31 of any given year, shall be certified to be true, accurate, and complete by a responsible official, and shall include the following data. [Rule 216.F.1.c.3]
- 1) Include a summary of deviations from any federally-enforceable requirement in this permit.
 - 2) If Duke Energy is not in compliance with any federally-enforceable requirement, include a progress report on the schedule of compliance which has been approved by the District Hearing Board. That report shall include: [Rule 216.F.2.c]
 - i. dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
 - ii. an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.
- c. On an **annual** basis, no later than March 1 of any given year.
- 1) Duke Energy shall submit a Compliance Certification Report to the APCO pursuant to District Rule 216.L.3. This report shall identify each federal applicable requirement in this permit, the compliance status of each subject process unit, whether the compliance was continuous or intermittent since the last certification, and the method(s) used to determine compliance. Each report shall be certified to be true, accurate, and complete

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

by a responsible official and a copy of this portion of the annual report shall also be submitted to the EPA Region IX Administrator. [40CFR72.90.a and Rule 216.L.3]

- 2) Duke Energy shall make the following information available to the APCO upon his request:
 - i. summaries of automatic and manual calibration data and internal audits of the opacity monitors on main boiler units 3 and 4; and [District-only, Rule 206]
 - ii. summaries of automatic and manual calibration data and internal audits of the CO monitors on main boiler units 1, 2, 3, and 4. [District-only, 40CFR60.App F.7]
- d. On an **annual** basis, at least 10 working days before the end of the calendar year, the APCO shall be notified of the predicted asbestos renovations for the following year as required by section 61.145.b.3.ii of 40CFR61 subpart M. [40CFR61.145.b.3.ii]

C. Emissions Monitoring Program

1. Continuous Emissions Monitoring. Duke Energy shall:

- a. operate and maintain continuous emission monitoring systems (CEMS) to determine:
 - 1) NO_x emissions from each main boiler, [40CFR75.10.a.1 and, District-only, Rule 429.D.5.b for all units; SIP Rule I.113.II.A.1 and Rule 113.B.1.a for units 3&4]
 - 2) CO₂ emissions from each main boiler, [40CFR75.10.a.3.i for all units; SIP Rule I.113.II.A.2 and Rule 113.B.1.b for units 3&4]
 - 3) CO emission from each main boiler, and [District-only, Rule 429.D.5.a]
 - 4) Opacity emissions from main boiler units 3 and 4; [SIP Rule 401]
- b. ensure that the CEMS are operated, calibrated, and maintained according to:
 - 1) the quality assurance (QA) and quality control procedures of 40CFR75 Appendix B, the QA plan prepared pursuant to section 1 of that appendix, and 40CFR60 Appendix F, [40CFR75.10.b and 75.21.a for NO_x and CO₂; and, District-only, 40CFR60.App F for CO]
 - 2) the APCO approved compliance plan, and [District-only, Rule 206]
 - 3) the monitoring plan prepared pursuant to 40CFR75.53.a; [40CFR75.53.a]
- c. determine SO₂ mass emissions using the procedures of 40CFR75 Appendix D; [40CFR75.11.d.2]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- d. calculate NO_x emissions using the procedures of 40CFR75 Appendix F; [40CFR75.12.b]
 - e. determine CO₂ mass emissions using the procedures of 40CFR75 Appendix G; [40CFR75.10.a.3.ii and 75.13.b]
 - f. ensure that all quality assurance calibration gases meet the requirements of 40CFR72.2; [40CFR75.21.c]
 - g. during any period during which a monitor is out-of-control, follow the procedures of 40CFR75.24 for NO_x and CO₂ instruments and the procedures of 40CFR60 Appendix F.4.3 for CO instruments; and [40CFR75.24 for NO_x and CO₂, and, District-only, 40CFR60.App F.4.3 for CO]
 - h. during any period during which monitoring or heat input data is missing, follow the procedures of 40CFR75 Subpart D for NO_x and CO₂ instruments. [40CFR75 Subpart D]
- 2. Changes to Monitoring Plans.** Whenever a replacement, modification, or change to a certified CEMS causes that system to be recertified, Duke Energy shall update the respective unit's monitoring plan. [40CFR75.53.b]
- 3. Fuel Flow Instruments.** Natural gas and fuel oil flow instrumentation shall be maintained and operated in accordance with 40CFR75 Appendix D for the purposes of calculating SO₂ emissions. [40CFR75.App D.2.1 and 40CFR75.4.g]

- D. Compliance Testing Conditions.** All testing shall be conducted in accordance with the District's Source Test Policy with the results being reported to the APCO within 45 days of testing. [District-only, Rule 210.B.1]

1. Annual Compliance Testing and Equipment Calibration

| Condition | |
|-----------|---|
| a. | Duke Energy shall conduct or cause to be conducted, compliance emission testing for NO _x and CO from all four main boiler units. [SIP Rule 406.A for CO] |
| b. | Each main boiler unit shall be tested at least once during any given calendar year. [SIP Rule 406.A for CO] |
| c. | The calibration of natural gas and fuel flow instrumentation used to determine SO ₂ emissions shall be checked and recalibrated, if necessary. [40CFR75.App D.2.1.6.1] |

- 2. Test Methods.** The following methods shall be used for compliance testing and performance audits. The author's most currently approved version of any given method shall be used.

| Parameter/Requirement | Method |
|---|--------------------------|
| sample and velocity traverses | EPA 1 or ARB 1 |
| velocity and volumetric flowrate | EPA 2 or ARB 2 |
| O ₂ , CO ₂ , excess air, and molecular weight | EPA 3, ARB 3, or ARB 100 |
| moisture content | EPA 4 or ARB 4 |
| NO _x stack emissions | EPA 7E or ARB 100 |
| NO _x CEMS relative accuracy | 40CFR75, App A |
| CO stack emissions | EPA 10 or ARB 100 |
| CO CEMS relative accuracy | 40CFR60, App F |
| fuel oil sulfur content | ASTM D1552-83 |
| fuel oil vapor pressure [District-only] | ASTM D323-90 |

E. Conditions Specific to the Identified Process

1. Process Unit A, Electrical Power Generation. none

2. Process Unit C, Portable Abrasive Blasting Equipment. none

3. Process Unit D, Off-Site Steam Generators

- a. This equipment shall not be used unless it complies with District Rule 430, Control of NO_x from Commercial Steam Generators. An authority to construct shall be obtained in accordance with District Rule 202, Permits, prior to the replacement of any burner. [District-only, Rules 202, 206, and 430]
- b. The APCO shall be notified prior to the firing of either steam generator on fuel oil. [District-only, Rule 206]

4. Process Unit E, Oil-Water Separator System [District-only, Rule 206]

- a. The APCO shall be notified within twenty-four (24) hours of oil-water separator use. At a minimum, that notification shall include the type of petroleum entering the unit, the throughput amount, and the cause for use.

5. Process Unit F, Abrasive Blasting Facility [Rule 206]

- a. All abrasive material transfer points shall be fully enclosed during blasting. Loading of new and spent abrasive shall be conducted with a minimum of dust generation.
- b. All dust collector filters shall be maintained in good condition.
- c. Only steel grit and ARB certified abrasives may be recycled. The recycling of abrasives must be done in accordance with the Performance Specifications set forth in Title 17. [District-only, Rule 206]
- d. Visible emissions from the blasting booth shall not exceed twenty percent (20%) opacity for periods aggregating more than three (3) minutes in any hour.

6. Process Unit O, Off-Site Storage Tanks

- a. There shall be no holes, tears, or openings present which allow the emission of organic vapors through the envelop surrounding the annular vapor space enclosed by the roof edge, stored liquid surface, shoe, and seal fabric, except when the storage tanks are empty and out of service. [District-only, Rule 206]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- b. The storage tank floating roof seals must be maintained in good condition and shall close the gap, between the roof and the tank wall, to 1/8 inch or less, except when the storage tanks are empty and out of service. [District-only, Rule 206]
- c. If the true vapor pressure of any material stored in any tank exceeds 1.0 psia or the Reid vapor pressure of the material is 1.0 psia or more, a record shall be maintained of: [40CFR60.113.a]
 - 1) the material stored;
 - 2) the dates that storage begins and ends for that material; and
 - 3) the maximum true vapor pressure for that material during the storage period.
- d. Action must be taken to comply with the notification, recordkeeping, and reporting requirements as specified in 40CFR60.7. All notifications and reports shall be submitted to the APCO with a copy submitted to the EPA Region IX Administrator. Such action shall include: [40CFR60.7]
 - 1) written notification, of the anticipated date of any physical or operational change which may increase emissions, no less than 60 days prior to that date; and
 - 2) maintaining records of the occurrence and duration of any startup, shutdown, or malfunction.

7. Process Unit P, On-Site Fuel Oil Storage Tanks [District-only, Rule 206]

- a. All internal roof column supports, sampling points, depth gauging holes, and ladder penetrations shall be lined with polyurethane and slotted in such a fashion as to minimize the exposure of stored material to the intra-roof space.
- b. The APCO shall be notified when crude oil is first stored in any tank.
- c. Internal and external floating roof seals must be maintained in good condition and shall close the gap between the roof and the tank wall, except when the storage tanks are empty and out of service.

8. Common to Process Units O and P [District-only, Rule 206]

- a. The APCO shall be notified no later than 3 working days prior to the use of any tank.
- b. All valves, flanges, and pump seals shall be properly maintained and kept in good operating order, except when the storage tanks are empty and out of service.

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

- c. All gauging and sampling ports shall remain closed except when gauging or sampling is taking place.
- d. The APCO shall be notified prior to the degassing of any tank so that an inspection of the floating roof seal may be conducted.
- e. This equipment shall not be used unless it complies with District Rule 425, Storage of Volatile Organic Compounds. An authority to construct shall be obtained in accordance with District Rule 202, Permits, prior to the replacement of any seal.

F. Future Effective Conditions. The following conditions will become effective upon the date as indicated.

1. District Rule 429

- a. Effective December 31, 2000, this facility shall comply with one of the following two options: [District-only, Rule 429.D.1.c]
 - 1) oxides of nitrogen from boiler units 3 and 4 shall not exceed the following limits based on a one (1) clock hour average at three percent (3%) oxygen on a dry basis:
 - i. Operation on natural gas: 10 ppmv
 - ii. Operation on fuel oil: 25 ppmv; or
 - 2) the total oxides emissions from all main boilers at the Morro Bay Power Plant shall not exceed 3.50 tons per day.
- b. Effective December 31, 2002, the total oxides of nitrogen emissions from all main boilers shall not exceed 2.50 tons per day. [District-only, Rule 429.D.1.d]

2. Acid Rain Program

- a. Effective January 1, 2000, the owners and operators of Units 1, 2, 3 and 4 shall hold SO₂ allowances in the unit's subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year. [40CFR72.9(c)]
- b. Effective January 1, 2000, the sulfur dioxide emission allowances in tons per year, as granted in Table 2 of 40CFR73 as of July 1, 1995, are as follows. The values included here may change as transactions occur because sulfur dioxide emission allowances may be bought or sold under the Acid Rain Program. [40CFR73.10.b]

Duke Morro Bay Power Plant, Permit # 113 (formerly D-1390-A-1)

| | year 2000 through 2009 | year 2010 and thereafter |
|--------|-------------------------------|---------------------------------|
| Unit 1 | 1,609 tpy | 1,405 tpy |
| Unit 2 | 139 tpy | 98 tpy |
| Unit 3 | 3,793 tpy | 3,483 tpy |
| Unit 4 | 3,289 tpy | 2,873 tpy |

G. Permit Shield. The following federally-enforceable limits are subsumed by the conditions of this permit as referenced. Through this action, streamlined requirements which were previously District-only requirements become federally-enforceable if any subsumed requirement is federally-enforceable. All monitoring, recordkeeping, and reporting requirements that are associated with any subsumed requirement are also subsumed and shall not apply except as identified elsewhere in this permit.

1. The NO_x and CO₂ continuous emissions monitoring requirements of SIP Rule I.113.II.A and District Rule 113.B.1 for the main boiler units are subsumed and shall not apply. [condition III.C.1]

IV. Compliance Determination Fees. The following fee schedules shall apply to the indicated process units.

| PROCESS | | FEE SCHEDULE (Rule 302.E) | | Each |
|----------------|--------------------------------|----------------------------------|------------------------------|-------------|
| A | Boiler Units 1, 2, 3, and 4 | 20 | boilers, >10 mmBtuh | 4 |
| C | Portable Abrasive Blasting | 48 | sandblasting | 1 |
| D | Off-Site Steam Generators | 3.c | boilers, >10 mmBtuh | 2 |
| E | Off-Site Oil-Water Separator | 37 | oily water treatment | 1 |
| F | Abrasive Blasting Facility | 48 | sandblasting | 1 |
| O | Off-Site Storage Tanks | 19 | floating roof storage tank | 3 |
| P | On-Site Fuel Oil Storage Tanks | 18 | internal floating roof tanks | 5 |
| | | 19 | floating roof storage tank | 1 |

V. Acid Rain Provisions. The Duke Energy Morro Bay Power Plant (MBPP) shall comply with all applicable provisions of 40CFR72, Permits Regulation and their Title IV permit application as indicated in the following three pages. [40CFR72 and Rule 217]